Internet Map Server Implementation at the National Guard

Joshua Delmonico and Travis Fortie

Army National Guard Bureau

How do get data in the hands of decision makers?

- Large Investment in data
  - doing little with it
  - A few specialists had access
  - few knew what was available
- Looked at options
  - hire more GIS staff
  - train all existing personnel on GIS
  - Find easy to use software that was free or nearly free

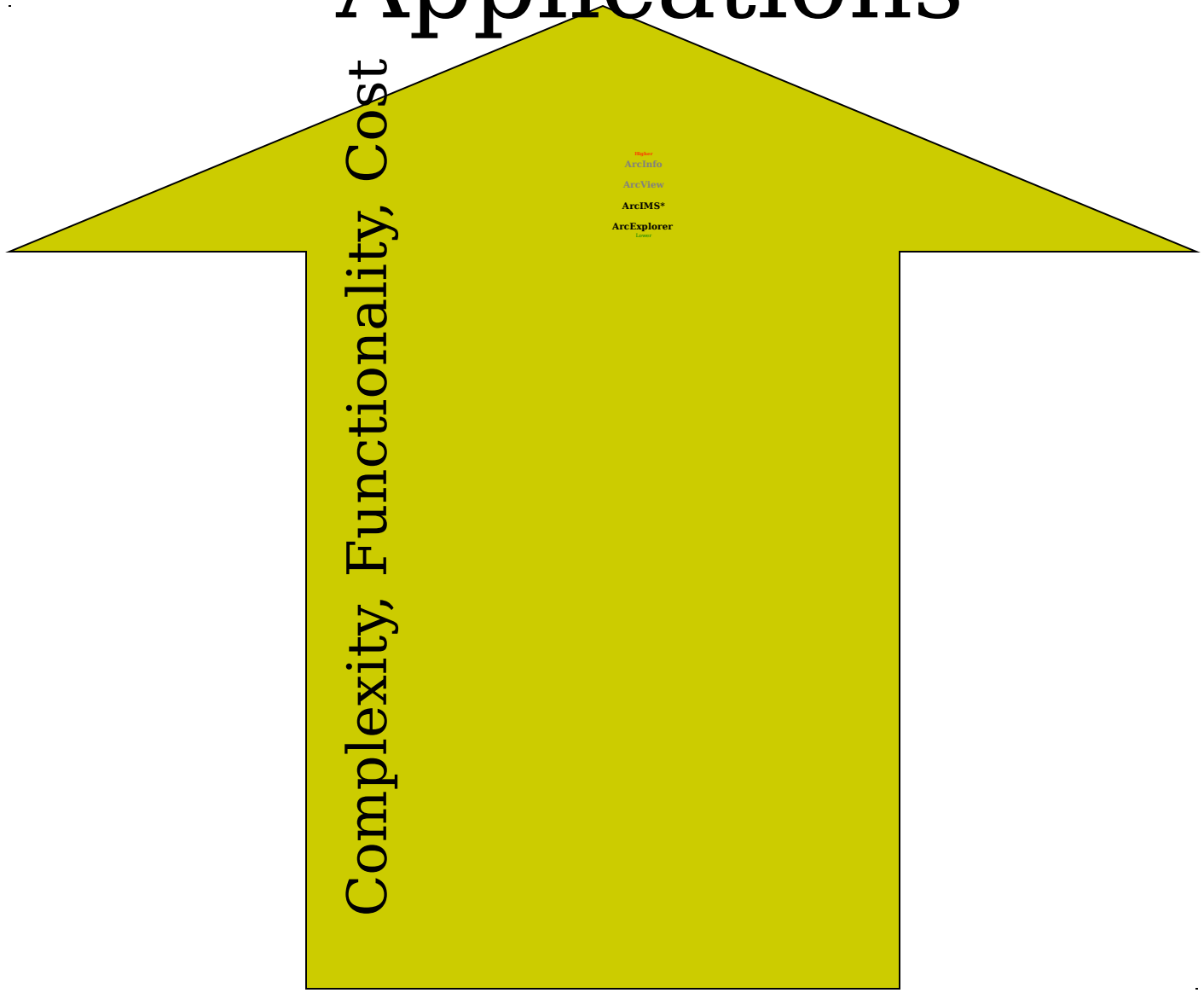
Options?

- Looked at reality
  - Mostly an ESRI Shop
- Software choices available
  - ArcExplorer
  - ArcIMS (Internet Map Server)
- Chose ArcIMS
  - Share data between sites (Mapservices)

What is IMS?

- Software publishes maps on the Internet or Intranet
- GIS capability via Standard Web Browser
- Cost per User is significantly lower than providing GIS software to each individual

Core Software Applications



*ArcIMS easy to operate, low cost

ARNG Geographic Data Server

Welcome to the

ARNG Geographic Data Server (GDS)

This server is hosted at the ARNG Readiness Center, Arlington Hall, Arlington, VA

The GDS utilizes state-of-the-art world-wide web technology to enable users to browse and analyze digital map data. An initial interface with basic maps and data are available currently for use by all Readiness Center personnel.

Full Listing of Available On-line Maps

Goto the Main Map Page

MAP SERVER HELP

SETTINGS CHECK

Your Browser Is:
MS Internet Explorer 5.5
Java - Enabled
Screen Resolution - OK
Screen Colors: 4294967296 - OK

PROBLEMS?

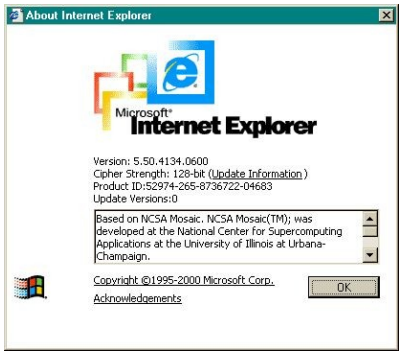
Please inform us of any problems that you may have with the server, as we are still in the initial deployment stage.
POCs are:
Robert Barber-Delach (ART)
Mr. Josh Delmonico (ARE)

Click to Bookmark Page

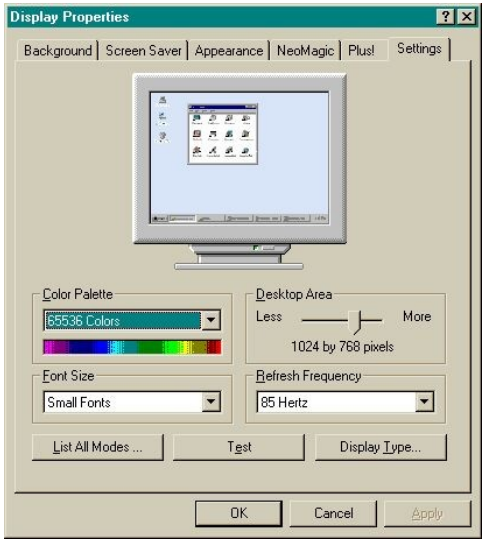
Geographic Data Server

Software/Settings Requirements

- Internet Explorer
  - versions 5.01, 5.5
  - Java Enabled


About Internet Explorer
Microsoft Internet Explorer
Version: 5.50.4134.0600
Cipher Strength: 128-bit (Update Information)
Product ID:52974-265-8736722-04683
Update Versions:0
Based on NCSA Mosaic. NCSA Mosaic(TM); was developed at the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign.
Copyright ©1995-2000 Microsoft Corp.
Acknowledgements
OK

- Display Settings
  - Screen Resolution
    - SVGA (800x600 pixels) or higher
  - Screen Colors
    - 16 bit (65,536 colors) or higher



ARNG Geographic Data Server

Home Main Map Page

On-line Map Listing:

General Maps
- ARNG Sites Map (Main Map)

Installation Maps
- Camp Rilea Map

Status Maps
- Active/Inactive Range Inventory Status updated 13 August 2001
- Range Development Plan Status updated 8 August 2001
- Integrated Natural Resources Management Plan Status updated 5 July 2001
- Integrated Cultural Resources Management Plan Status updated 6 June 2001

Demos
- Camp Atterbury Building ISR Status FY01
- USR Installation Level Status
- USR State Level Status

Readiness Center
- Readiness Center Floor Plans

Special Use Maps
- USGS Topographic Map Boundaries
- NGB STARC and Hub Locations
- Compliance Permit Tracking System

Units/Training Maps
- ARNG Unit Locations
- ARNG Armor Units Map NEW
- Division/ESB Unit Assignments Map NEW
- State Training - Man Days FY00
- ARNG School/Student Location Analysis

Encroachment
- Camp Roberts Encroachment Map
- US Population Map NEW

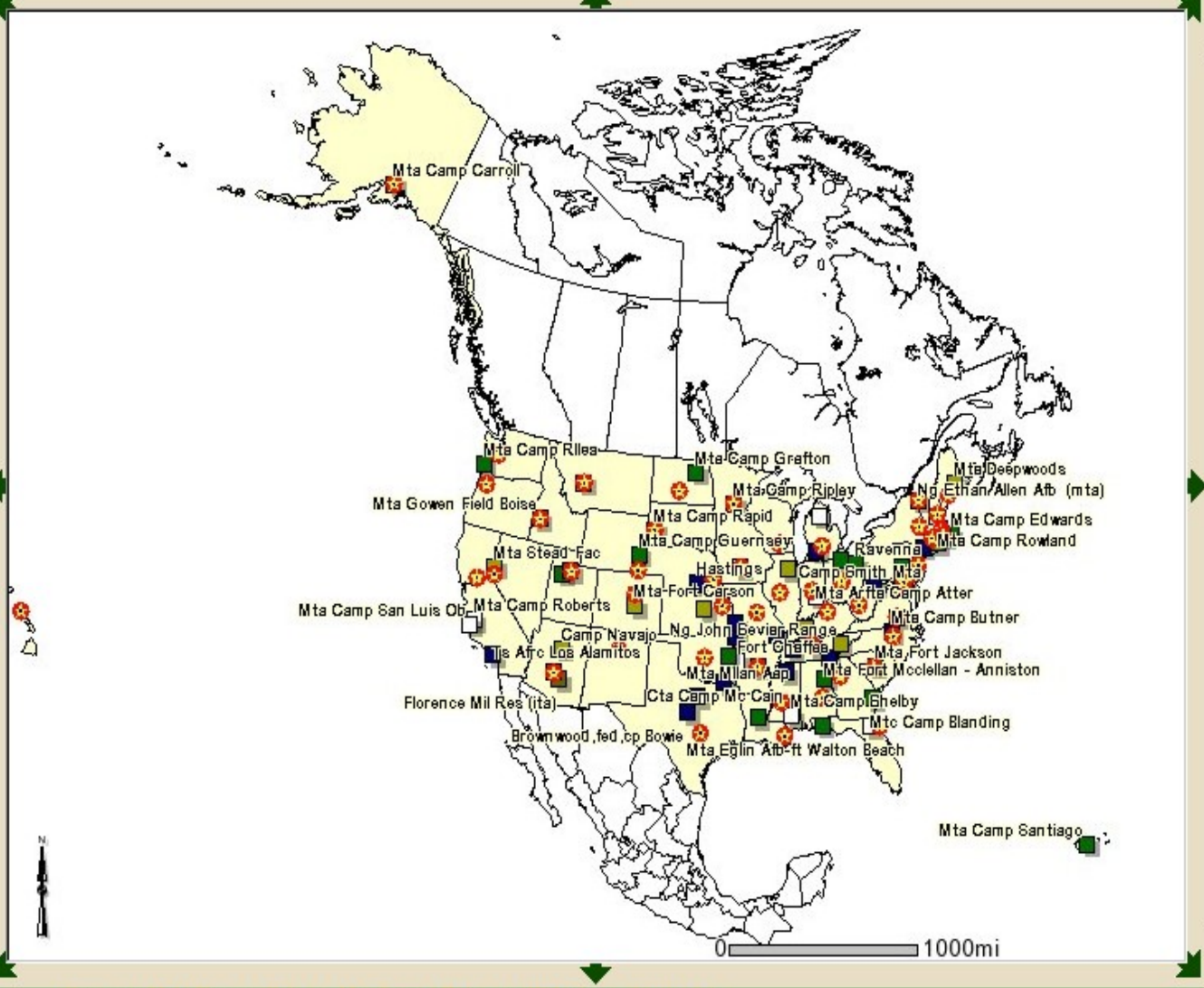
This page maintained by Robert Barber-Delach

ARNG Installations/Facilities Map - Microsoft Internet Explorer

ARNG Geographic Data Server

Army National Guard Sites

Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print



Layers | Legend

Visible	Active	Data Layer
☑	◉	STARC/TARC HQ
☐	○	Active Army Sites
☑	○	ARNG Training Sites
☐	○	ARNG Sites
☐	○	Organizational Maintenance Shops (OMS)
☐	○	ARNG Sites Listing (from DA)
☐	○	ARMY ITAM Sites
☐	○	ARNG ITAM Sites
☐	○	ARNG INRMP Sites
☐	○	Airfields
☐	○	Railroads
☐	○	Major Highways
☐	○	US Routes
☐	○	Road Network
☐	○	Recreation Areas
☐	○	Public Land Survey
☐	○	US Counties
☐	○	Telephone Areacodes
☐	○	Cites > 100000 pop.
☐	○	Urban Developed Zones
☐	○	Federally Owned Lands

Refresh Map

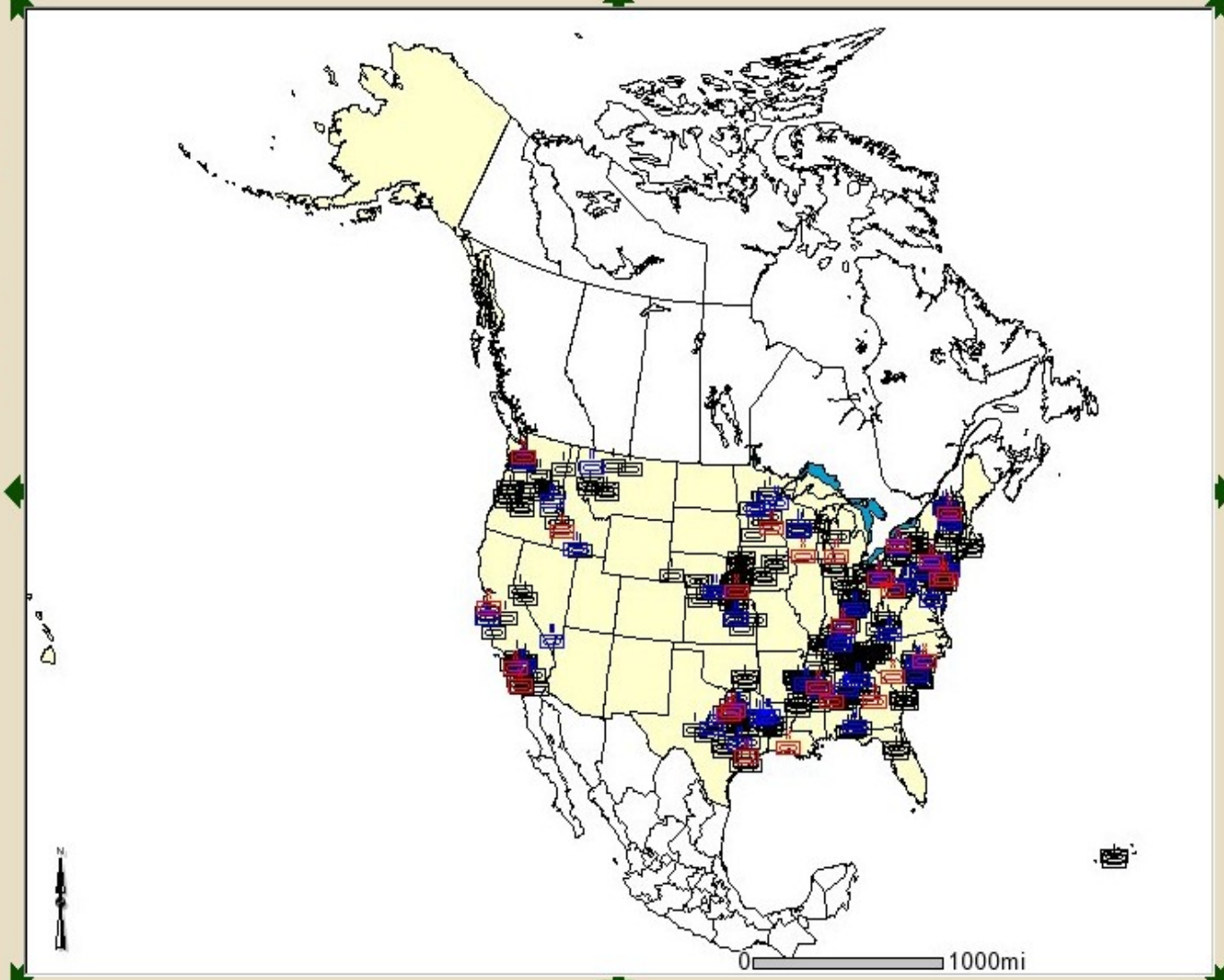
Restart Map

Zoom In

ARNG Armor Unit Map - Microsoft Internet Explorer

ARNG Geographic Data Server

ARNG Armor Units Map



Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print
Restart Map

Layers | Legend

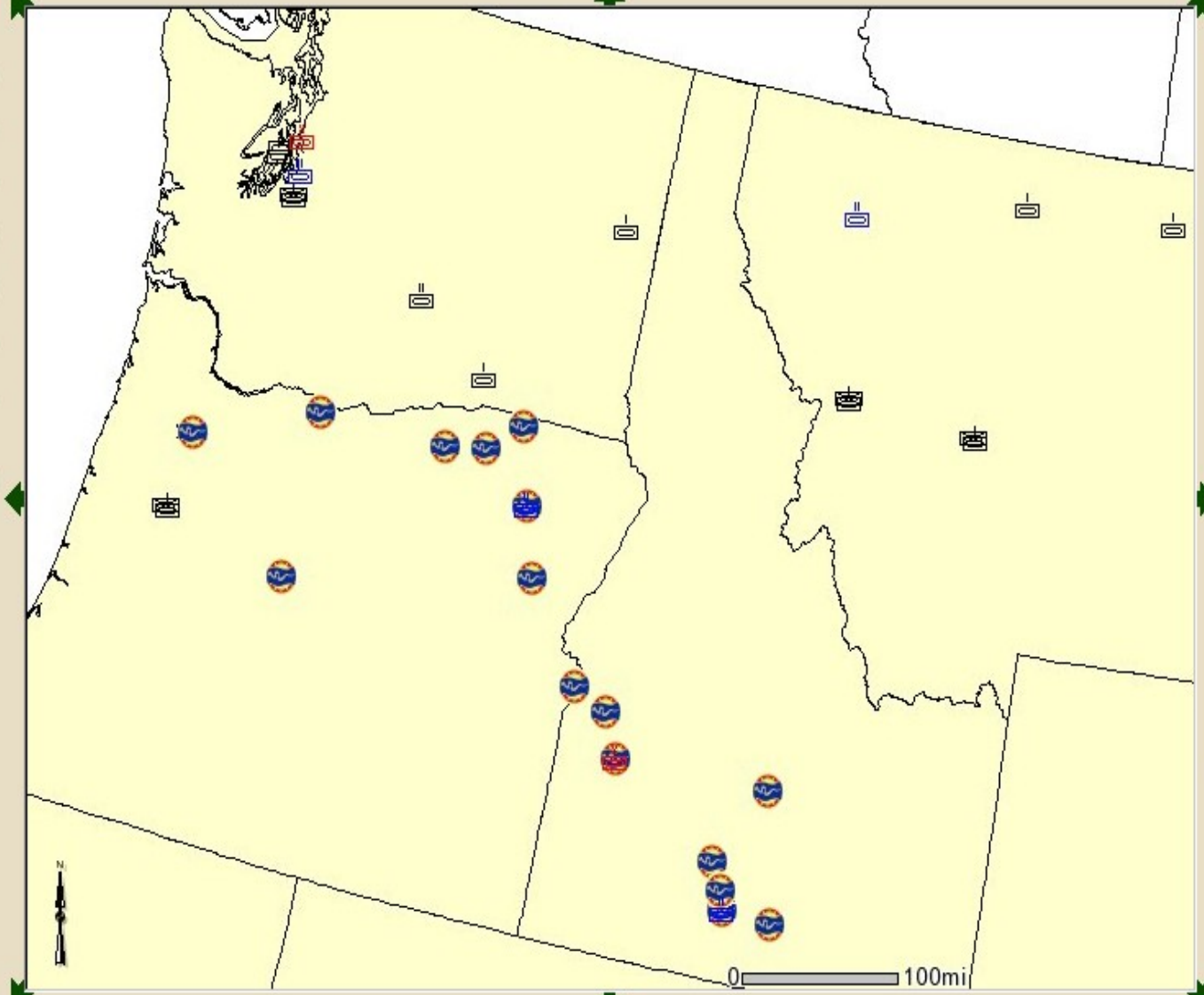
- ARNG Armor Unit BDE HQ
- ARNG Armor Unit BTN HQ
- ARNG Armor Units (w/size)
  - Brigade
  - Battalion
  - Troop
  - Company
  - Battery
  - Platoon
  - Squadron
  - Cavalry
- US States and Territories
- Lakes
- Canada
- Mexico

Refresh Map

Zoom In

ARNG Geographic Data Server

ARNG Armor Units Map



Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print

Restart Map

Layers | Legend

- ARNG Armor Unit BDE HQ
- ARNG Armor Unit BTN HQ
- 116th Armored Brigade

ARNG Armor Units (w/size)

- Brigade
- Battalion
- Troop
- Company
- Battery
- Platoon
- Squadron
- Cavalry
- US States and Territories
- Lakes
- Canada
- Mexico

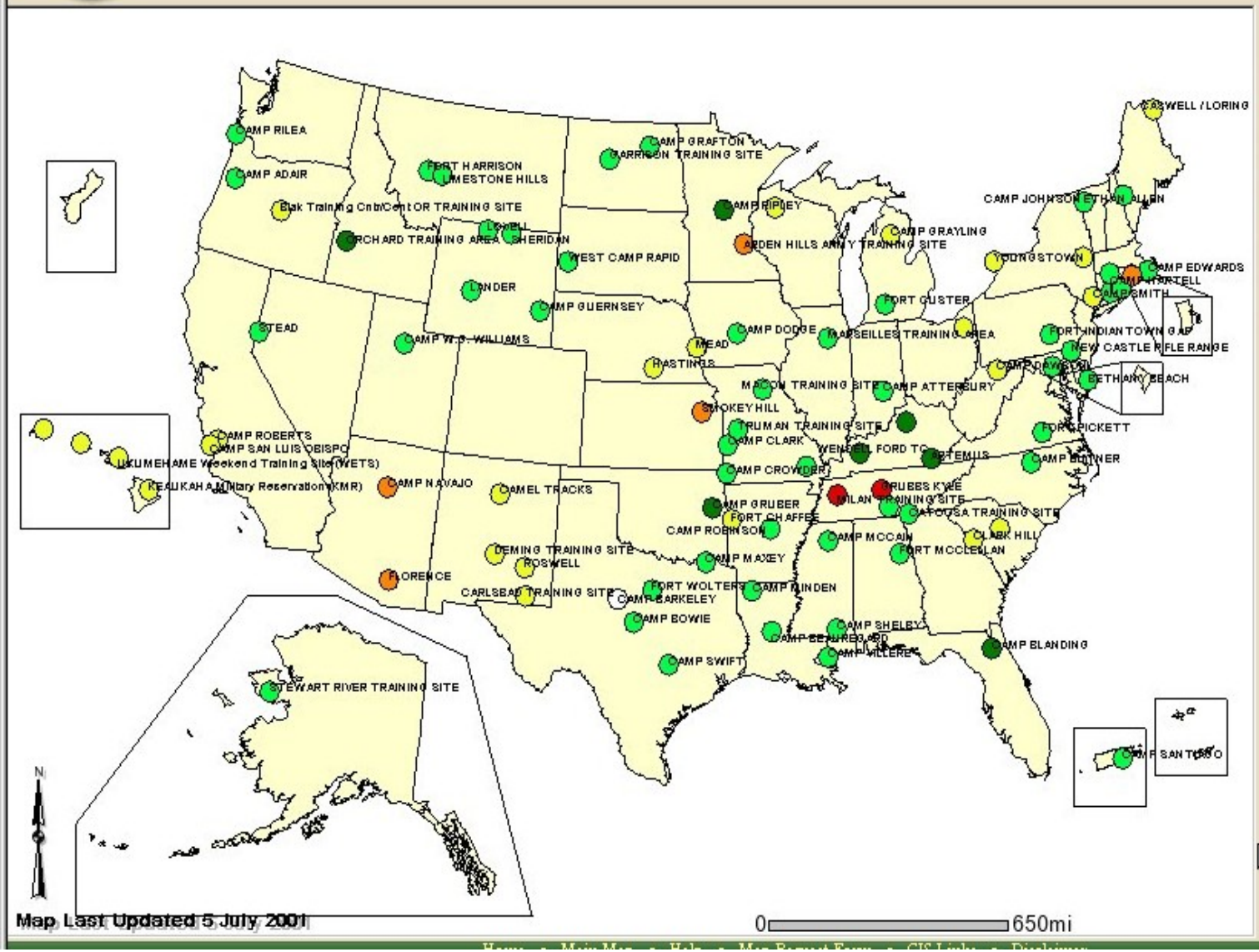
Refresh Map

Zoom In

INRMP Status Map - Microsoft Internet Explorer

ARNG Geographic Data Server

Integrated Nat. Res. Mngmt. Plan Status



INRMP Status

- Funded Not Started/Contracted
- Draft Started
- Initial Draft
- Coordinating Draft in State
- Coordinating Draft NGB
- Final Draft
- Completed and Approved

Labels

Lines

State and Territories Bounds

Identify

Hyperlink

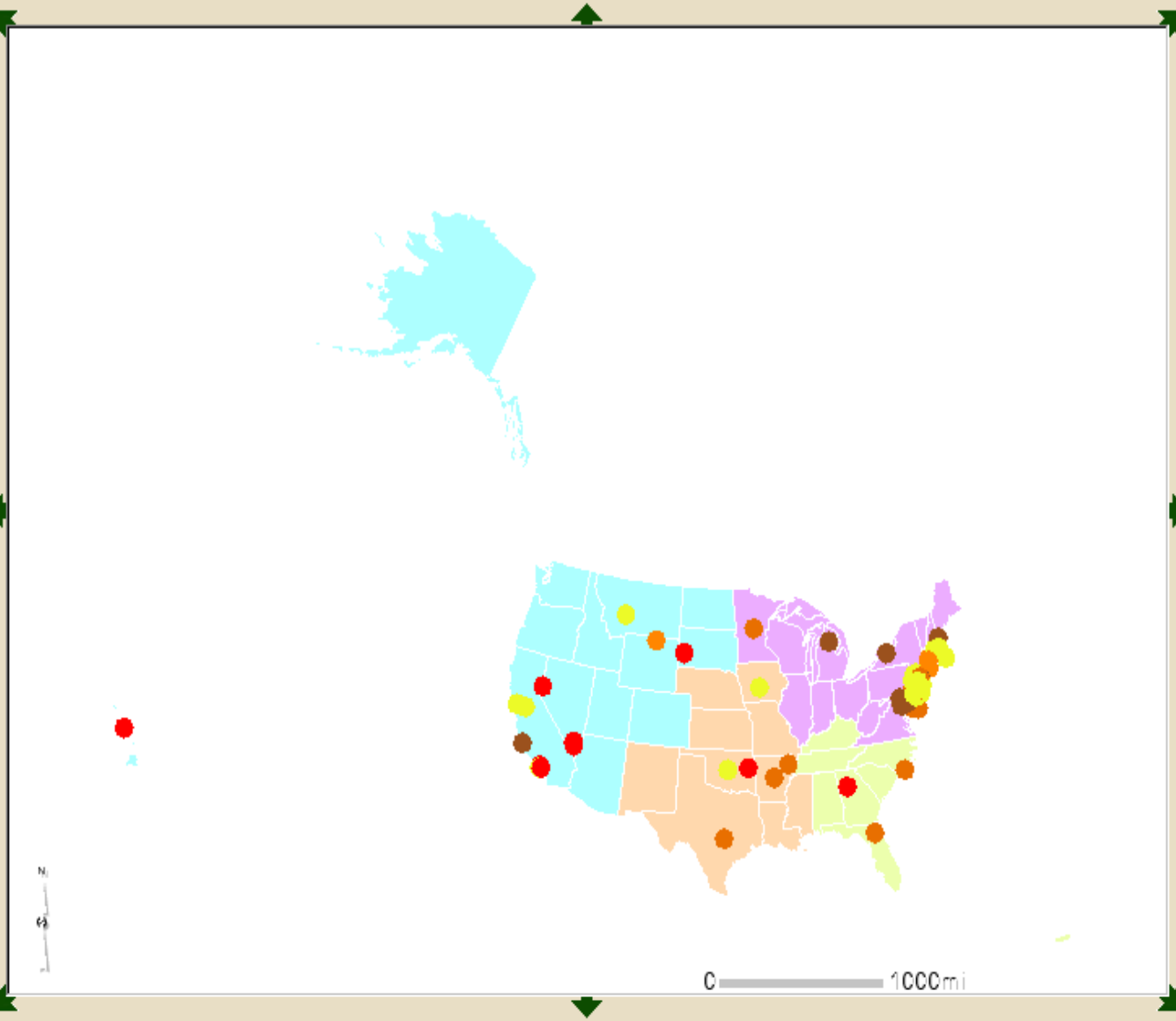
Print

Restart Map

ARNG Geographic Data Server

Compliance Permits Tracking System

Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print



Layers | Legend

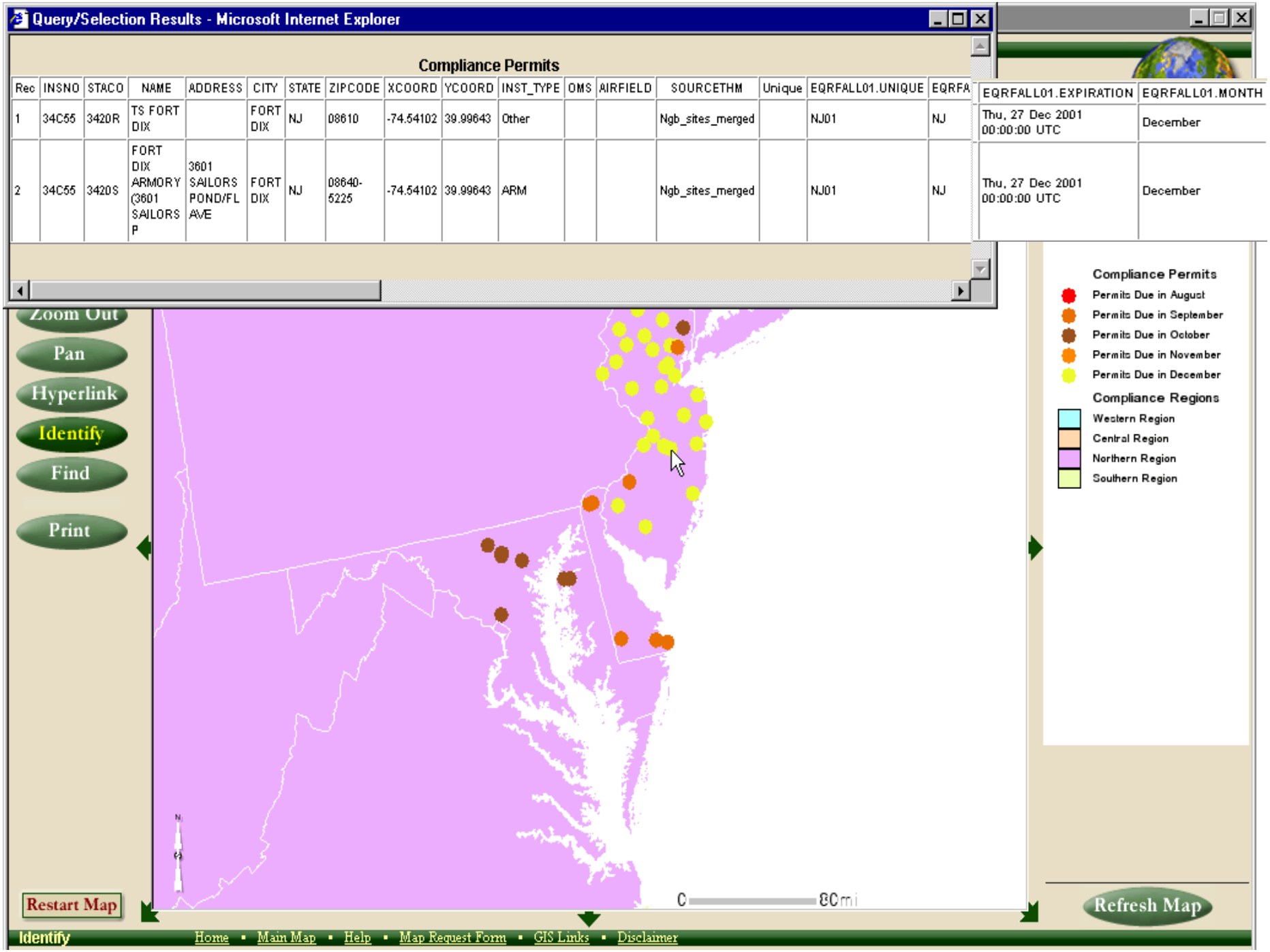
Visible Active | Data Layer

- Compliance Permits
- Compliance Regions

Restart Map

Refresh Map

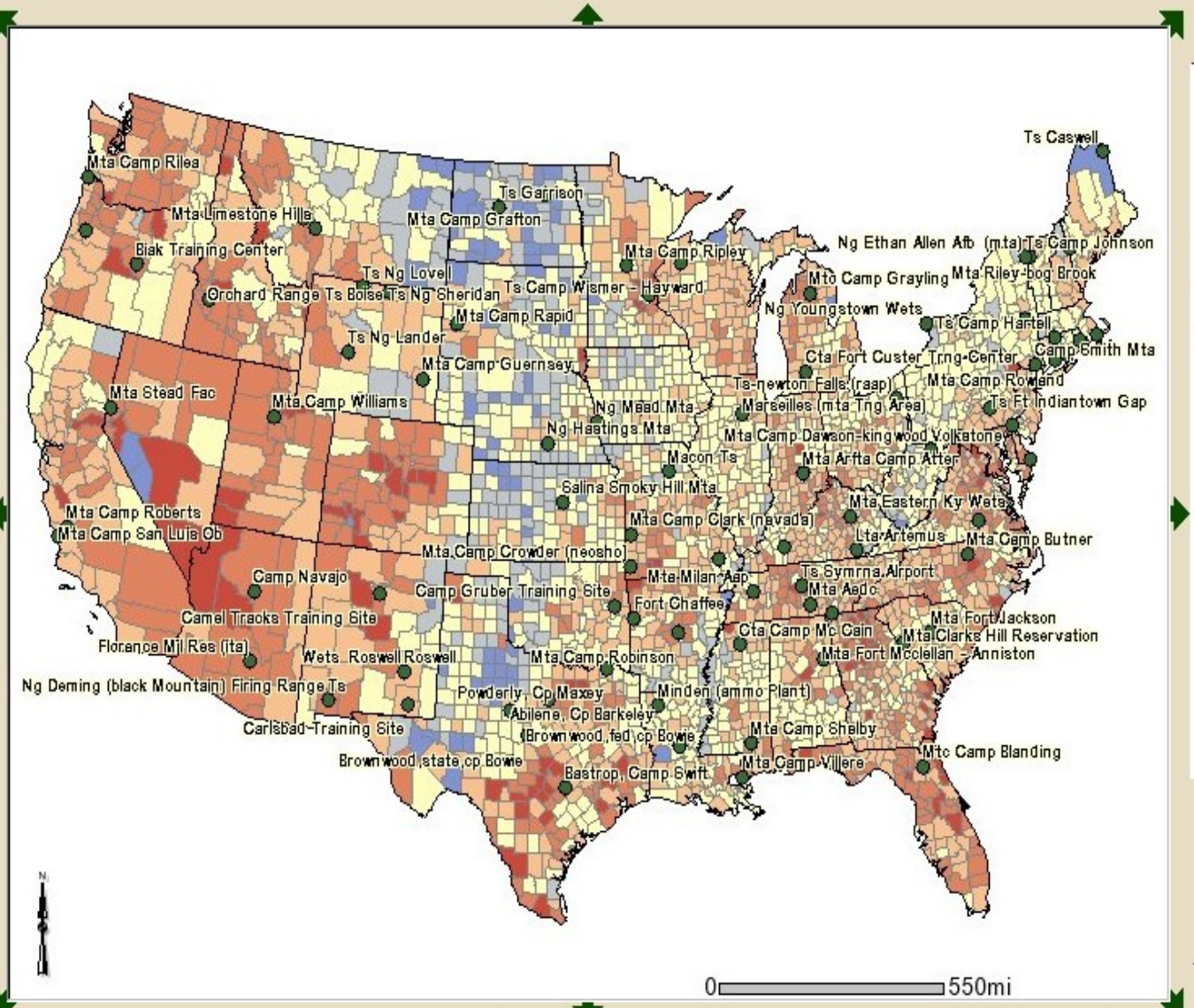
Zoom In


Query/Selection Results - Microsoft Internet Explorer
Compliance Permits
Rec | INSNO | STACO | NAME | ADDRESS | CITY | STATE | ZIPCODE | XCOORD | YCOORD | INST_TYPE | OMS | AIRFIELD | SOURCETHM | Unique | EQRFALL01.UNIQUE | EQRFA
1 | 34C55 | 3420R | TS FORT DIX | | FORT DIX | NJ | 08610 | -74.54102 | 39.99643 | Other | | | Ngb_sites_merged | | NJ01 | NJ
2 | 34C55 | 3420S | FORT DIX ARMORY (3601 SAILORS P | 3601 SAILORS POND/FL AVE | FORT DIX | NJ | 08640-5225 | -74.54102 | 39.99643 | ARM | | | Ngb_sites_merged | | NJ01 | NJ
EQRFALL01.EXPIRATION
Thu, 27 Dec 2001 00:00:00 UTC
Thu, 27 Dec 2001 00:00:00 UTC
EQRFALL01.MONTH
December
December
Zoom Out
Pan
Hyperlink
Identify
Find
Print
Compliance Permits
Permits Due in August
Permits Due in September
Permits Due in October
Permits Due in November
Permits Due in December
Compliance Regions
Western Region
Central Region
Northern Region
Southern Region
Restart Map
Refresh Map
Identify
Home • Main Map • Help • Map Request Form • GIS Links • Disclaimer

ARNG Geographic Data Server

US Population Map

Full Extent | Zoom In | Zoom Out | Pan | Hyperlink | Identify | Find | Print



Layers | Legend

- ARNG INRMP Sites
- State Boundaries

Population Change (%): 1990 to 2000

- -150% to -15%
- -15% to -5%
- -5% to 5%
- 5% to 15%
- 15% to 30%
- 30% to 65%

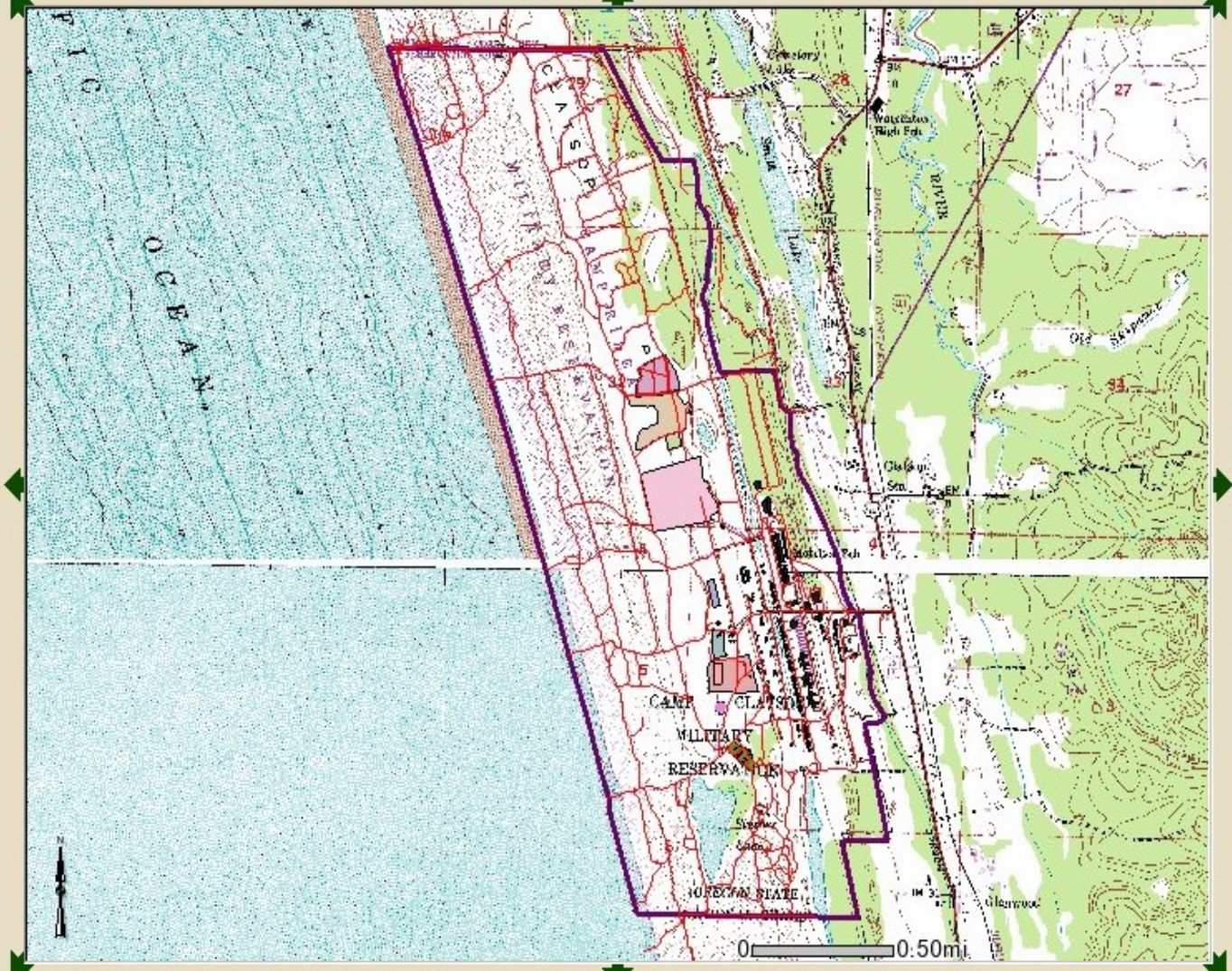
Restart Map

Refresh Map

Camp Rilea Installation Map - Microsoft Internet Explorer

ARNG Geographic Data Server

Camp Rilea Installation Map



Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print
Restart Map

Layers | Legend

- Roads
- Cantonment
- Fence
- grenade
- Hardened Training Site

Ranges

- Grenade impact
- zero range
- infantry squad live fire
- pistol range
- known distance
- m203law
- 01 range
- 03 range
- m81 impact
- modified record fire
- Installation Boundary
- drgclgea.tif
- drgclwar.tif

Refresh Map

Zoom In

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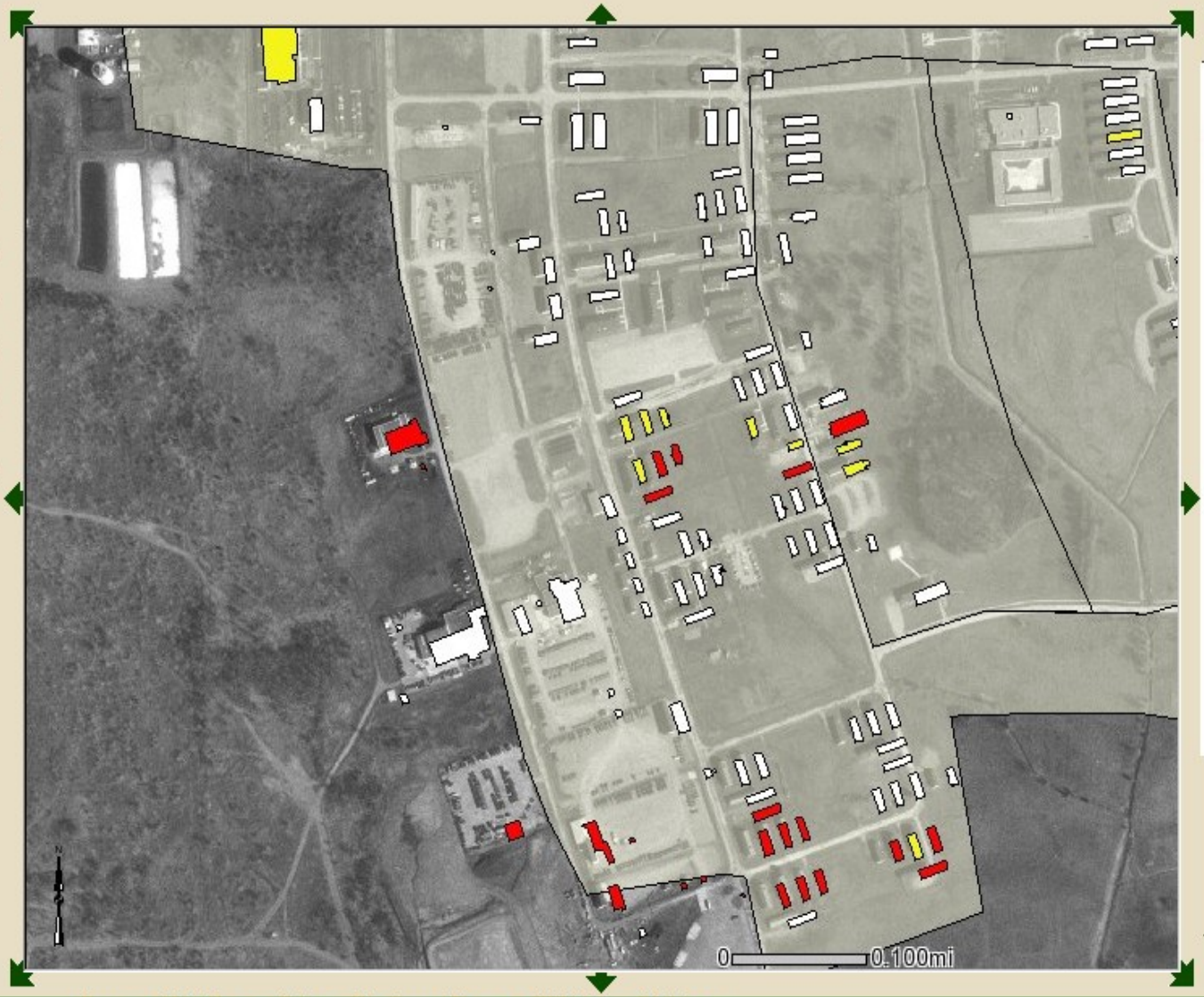
Camp Atterbury Building ISR - Microsoft Internet Explorer

ARNG Geographic Data Server

Camp Atterbury - Building ISR Data

Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print



Layers | Legend

Building ISR FY01
Red Status
Amber Status
Green Status
Cantonment Area
Digital Ortho Quadrangle

Restart Map

Refresh Map

Zoom In

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ARNG Geographic Data Server

Readiness Center Floor Plans

Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print

Layers | Legen

Visible	Active	Data Layer
☐	○	1st Floor
☑	○	2nd Floor
☐	○	3rd Floor
☐	○	Ground Floor
☑	○	2nd Floor Conference Rooms
☑	◉	2nd Floor Cubicles
☑	○	2nd Floor Offices
☑		RegionView.sid

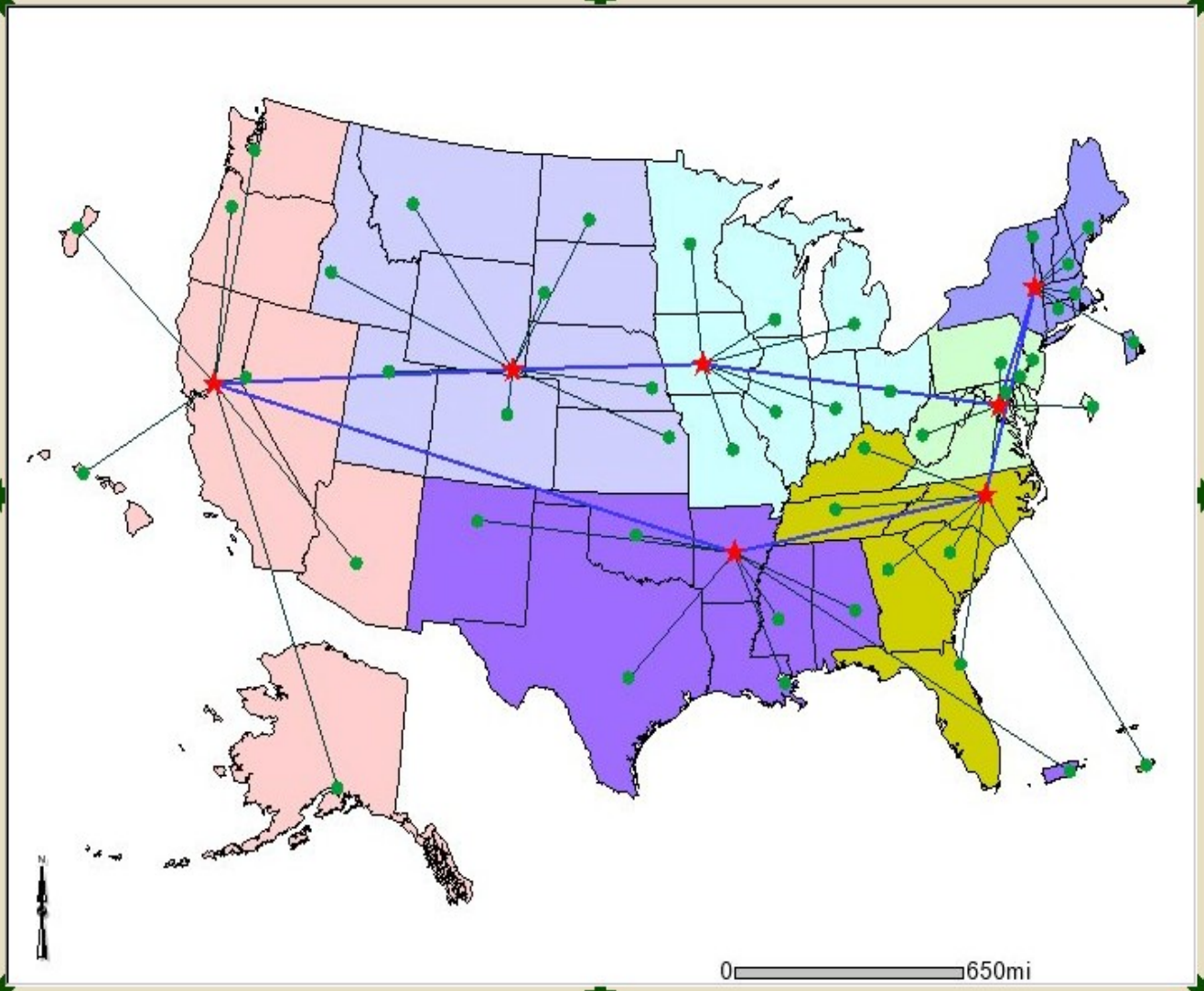
Restart Map

Refresh Map

Zoom In

ARNG Geographic Data Server

NGB STARC and Hub Locations



Full Extent
Zoom In
Zoom Out
Pan
Hyperlink
Identify
Find
Print

Layers | Legend

Visible Active | Data Layer

- STARC and Hub Locations
- Network Lines
- US States and Territories

Restart Map

Refresh Map

Zoom In

Home • Main Map • Help • Map Request Form • GIS Links • Disclaimer

Steps to a successful implementation

1. Determined Hardware required
   a. Servers chosen based on anticipated # users
   b. Amount of data determined Storage requirements
2. Determine Software required
   a. SDE and RDBMS
   b. If not, Shapefiles required
3. Tested and approved by DOIM

Steps to a successful implementation

4. Implementation Plan done concurrently to determine needs and expectations
   a. Assisted with design of IMS pages
   b.
5. Choose functionality based on lowest common denominator
   a. HTML vs Java client
   b. Functionality vs Ease of Use

Customization Options

- Customizing maps
  - Arc XML
- Customized the interface
  - HTML & Javascript
  - Java
- Removed some of the tools
- Moved buttons and changed icons
- Printing large format maps
- Custom Map Request Form/Help

Questions?